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EXAMINER

MARCELO, MELVIN C

ART UNIT PAPER NUMBER

2662

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/035,360

Applicant(s)

MAJOR ET AL

Examiner

Melvin Marcelo

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

1. Claim 3 is objected to because of the following informalities: claim 3, line 10, "entity is misspelled. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 12, lines 2-4, "the prefix structure of the header portion of the data frame formed by said frame encapsulator remains unpopulated such that the data frame forms a "not tagged" frame" contradicts the limitation in claim 3, lines 9-10, "the prefix structure identifying the first net entity." It is not clear whether applicant intended to distinguish the data frame in claim 12, line 3, as --from the additional data entity--.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Baum et al. (US 6,850,495 B1).

Baum teaches the frame encapsulator system (Figure 10), wherein the first elemental and second elemental devices are the access router connected by together by a network path (Figure 9, AR 812a connected to AR 812b). With respect to the claims below, references to the prior art appear in parenthesis.

### Claims

1. *In a network element including a first elemental device and at least a second elemental device, the first and second elemental devices, respectively, connected together by way of a network path and upon which at least selectably to communicate a payload data stream and a management data stream upon a common transport stream (Baum, Figure 9, wherein the elemental devices are the access router AR 812a-812b shown as Ingress Access Router and Egress Access Router in Figure 19), an improvement of apparatus for the first elemental device, said apparatus comprising:*

*a frame encapsulator coupled to receive data to be communicated to the second elemental device, said frame encapsulator for frame-formatting the data into common-transport-stream-related frames (Figure 19, Encapsulate function 1930); and*

*a communicator coupled to said encapsulator to receive the common-transport-stream related to frames, said communicator utilizing single device-specific MAC (Medium Access Control) addresses for addressing and thereafter transporting the common-transport-stream-related frames upon the network path (Figure 19, communicator associate with Forward functions 1932 and 1934; and frame format in Figure 37 includes MAC addresses).*

2. *In the network element of claim 1, a further improvement of apparatus for the second elemental device, said apparatus comprising:*

*a frame analyzer coupled to the network path to receive the common-transport-stream related frames, said frame analyzer for recognizing the single device-specific MAC addresses*

*and for selectably forwarding the common-transport-stream related frames responsive thereto*  
**(Figure 19, functions associated with the Egress Access Router for forwarding the frame).**

3. *In a network element having a first elemental device and at least a second elemental device, the first and at least second elemental devices, respectively, connected together by a connector, an improvement of apparatus for facilitating communication of data, sourced at a first net entity, at least from the first elemental device to the second elemental device* **(Baum, Figure 9, wherein the elemental devices are the access router AR 812a-812b shown as Ingress Access Router and Egress Access Router in Figure 19), said apparatus comprising:**

*a frame encapsulator coupled to the first net entity to receive the data to be communicated to the second elemental device, said frame encapsulator for frame-formatting the data into data frames* **(Figure 19, Encapsulate function 1930), the data frames having a header portion and a data portion, the header portion selectably including a prefix structure, the prefix structure identifying the first net entity, the data frame, once formed, for communication upon the connector to the second elemental device** **(Frame format in Figure 37).**

4. *The apparatus of claim 3 wherein the connector which connects together the first and at least second elemental devices forms an standard compliant Ethernet point-to-point link and wherein the data frames into which said frame encapsulator encapsulates the data comprises Ethernet frames* **(Frame format in Figure 37, Ether Type 3716).**

5. *The apparatus of claim 3 wherein the prefix structure included as part of the header portion selectably formed by said frame encapsulator comprises a VLAN (Virtual Local Area Network) Identifier (VID)* **(Frame format in Figure 37).**

6. *The apparatus of claim 5 wherein the prefix structure is of a length corresponding a VIE) field defined pursuant to an IEEE 802.1Q standard, and wherein the VID) comprises an IEEE 802.1Q-defined VID) (Frame format in Figure 37).*

7. *The apparatus of claim 3 wherein the first elemental device comprises at least a first external port and wherein the first net entity is positioned external to the first elemental device and coupled to the first external port thereof, and wherein the prefix structure identifies the first external port to which the first data source is coupled (Frame format in Figure 37).*

8. *The apparatus of claim 7 wherein the first elemental device comprises a packet-data interface converter, wherein the first net entity comprises a packet data source, and wherein the prefix structure that identifies the first external port is a configuration parameter (Frame format in Figure 37).*

9. *The apparatus of claim 7 wherein the first elemental device comprises a Virtual LAN (local area network) processor and wherein said frame encapsulator is embodied at the Virtual LAN processor (Frame format in Figure 37).*

10. *The apparatus of claim 3 wherein the data sourced at the data source is defined in terms of logical layers, the data formed of at least one lower-level logical layer and at least one higher-level logical layer and wherein the data formatted by said frame encapsulator comprises data formed of the at least one higher-level logical layer (Layers in Figures 7A-7C).*

11. *The apparatus of claim 3 wherein the first elemental device comprises an output port, the connector coupled to output port, wherein the second elemental device comprises an input port, the connector coupled to the input port, and wherein the data frames, once formed by said frame encapsulator is provided to the output port of the first elemental device (Figure 19, Ingress Access Router and Egress Access Router).*

12. *The apparatus of claim 3 wherein an additional data entity is positioned internal to the first elemental device and wherein the prefix structure of the header portion of the data frame formed by said frame encapsulator remains unpopulated such that the data frame forms a "not tagged" frame (It is inherent that the Access Router generates data frames such as management messages in order to communicate its status with Administration Entity 1092 in Figure 10, wherein such control messages would be "not tagged" since they do not originate from a logical ingress port, i.e. the data frame in Figure 37 would not have the Logical Ingress Port field populated).*

13. *The apparatus of claim 12 further comprising a net entity wherein the first elemental device comprises at least a first external port, wherein the net entity is positioned external to the first elemental device and coupled to the first external port thereof, and wherein the data frame formed by said frame encapsulator is selectably formed of data sourced by the first data source and of data sourced by the second data source (Ingress Access Router in Figure 19).*

14. *The apparatus of claim 12 wherein the data sourced at the data entity comprises management data and the data sourced at the net entity comprises payload data and wherein the tag header field is populated with the tag header when the data frame is formed of the data sourced by the net entity (Frame format in Figure 37).*

15. *The apparatus of claim 3 further comprising: a detector positioned at the second elemental device and coupled to receive indications of the data frame communicated from the first elemental device to the second elemental device, said detector for detecting whether the prefix structure is included as part of the header portion (Egress Access Router in Figure 19).*

16. *The apparatus of claim 15 wherein, when said detector fails to detect the prefix structure to form part of the header portion, the data frame is indicated merely to be received at the first elemental device (It is inherent that the Access Router generates data frames such*

as management messages in order to communicate its status with Administration Entity 1092 in Figure 10, wherein such control messages would be “not tagged” since they do not originate from a logical ingress port, i.e. the data frame in Figure 37 would not have the Logical Ingress Port field populated).

*17. The apparatus of claim 16 wherein the first elemental device comprises at least a first external port and wherein the first data port is positioned external to the first elemental device and coupled to the first external port thereof, the prefix structure identifying the first external port, and wherein, when said detector detects the prefix structure, said detector further identifies the first data port to be associated with the data frame (Frame format in Figure 37).*

*18. In a method for communicating at a network element having a first elemental device and at least a second elemental device, the first and at least second elemental devices, respectively, connected together by a connector (Baum, Figure 9, wherein the elemental devices are the access router AR 812a-812b shown as Ingress Access Router and Egress Access Router in Figure 19), an improvement of a method for facilitating communication of data, at least from the first elemental device to the second elemental device, said method comprising:*

*encapsulating the data to be communicated into a data frame, the data frame having a header portion and a data portion (Figure 19, Encapsulate function 1930); and*

*selectably inserting a prefix structure into the header portion (Frame format in Figure 37).*

*19. The method of claim 18 further comprising the operations of: communicating the data frame by way of the connector to the second elemental device; and detecting, once the data frame is delivered to the second elemental device, whether the header portion includes the prefix structure (Frame format in Figure 37).*



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20. *The method of claim 18 wherein the prefix structure selectably inserted into the header portion during said operation of selectably inserting comprises a VLAN (Virtual Local Area Network) Identifier (VID) (Frame format in Figure 37).*

21. *The method of claim 20 wherein the prefix structure corresponds to a VID field defined pursuant to an IEEE 802.1Q standard, and wherein the VID) comprises an IEEE 802.1Q-defined VID (Frame format in Figure 37).*

22. *The method of claim 20 wherein the first elemental device comprises at least a first external port and wherein the first data source is positioned external to the first elemental device, coupled to the first external port thereof, said method further comprising the operation of naming the first external port with a first VID, the prefix structure populated with the first VID (Frame format in Figure 37).*

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Marcelo whose telephone number is 571-272-3125. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'Melvin Marcelo', written in a cursive style.

Melvin Marcelo  
Primary Examiner  
Art Unit 2662

October 2, 2005